

## QUICK START

DevComDroid uses Device Descriptions (DDs) to access data stored in the memory of the smart field device. These DDs are developed by the manufacturer for their products and, in turn, distributed by the HART® Communication Foundation (HCF) worldwide. The latest DDs are included as part of the DevComDroid installation. Visit the HCF website ([www.hartcomm.org](http://www.hartcomm.org)) or the ProComSol website ([www.procomsol.com](http://www.procomsol.com)) for update information.

The following steps will allow you to install and quickly begin using DevComDroid:

### Step 1: Setup Your Android Device

1. Allow installation of apps from sources other than the Play Store

Note: Below is for Samsung Galaxy 4, your Android device may have different key sequences.

a) Press bottom left button on your Android device (Menu Button)

b) Select Settings

c) Select More

d) Select Security

e) Enable Unknown sources

2. Turn on Bluetooth

3. Connect Android device to PC via the USB cable.

### Step 2: Install the DD Library

Copy the file “com.procomsol.devcom.dd.apk” to your device. Find it using a File Browser App and click on it to launch the Install program. Once launched, select “Install DD Library” to begin library installation. When done exit the program. See Section 4.2.1 for details.

### Step 3: Install the DevComDroid Application

1. Copy the file “com.procomsol.devcom.apk” to your device. Find it using a File Browser App and click on it to launch the Install program. See Section 4.2.2 for details

### Step 4: Connect the communication interface

Connecting to a HART device requires special interface hardware to be attached to your computer. These interfaces ("HART Modems") are available from ProComSol, Ltd and other sources. The interface should be connected and configured. The preferred interface is a Bluetooth HART Modem - ProComSol, Ltd model HM-BT-BAT-ER. See Section 4.2.3 for details.

On initial start the program will prompt you for a HART modem to use. Make sure your modem is turned on and press the “Scan for Bluetooth Devices” button in DevComDroid. Select your HART Modem and perform the Pairing operation. Enter 1234 for the pairing code.

### Step 3: Connect to the field device

Find a connection point for the device’s 2-wire 4-20mA loop you wish to communicate with. For communications you must have a suitable load resistance or a 250Ω resistor must be placed in series with the device. Using the clips from the HART modem, connect to the HART device. While the HART Communication signal is available anywhere along the 4-20mA wiring, it is often easiest to connect across the field device's terminals (caution should

be observed when working in a hazardous area, many Android devices are not rated for intrinsic safety and should only be connected in a safe area).

#### **Step 4: Activate DevComDroid**

Launch DevComDroid by selecting the DevComDroid icon from the Start menu.

You will be shown how many days you can run it before activation is required. You can use it for up to 10 days before you need to activate it. Activation only needs to occur once. See Section 4.3 for details.

#### **Step 5: Browse the Device**

On initial start, DevComDroid sends a command to the field device, establishes a connection, and learns its identity. Once DevComDroid knows the device identity, it locates the device's DD in the library and loads it. From this point forward operation of DevComDroid is determined by the DD provided by the device manufacturer. If a DD for the device is not present, a generic DD will be used.

Menus and data are presented using a tree scheme. The organization of the data in the display window is dictated by the device DD. The display shows menus and data. To navigate to a different menu simply select it. To return to the previous menu, press the "Back" key on the device.

#### **Step 6: Modify the Device's Configuration**

The Menu tree allows access to all of the data exactly as described by the device manufacturer's DD. When you find elements of the field device's configuration you want to change, simply click and edit the data. Once you have changed the configuration to suit your needs, press the "Commit" button to send the new data to the HART field device.

#### **Step 7: Performing Maintenance and Testing the Field Device**

Many devices perform Methods or Standard Operating Procedures (SOPs) that may need to be performed to ensure the device is in peak condition. These Methods may include calibrating the loop current, trimming the transducer values or performing some diagnostic test on the field device. Methods appear on the screen just like menus, but have blue text. Click on the Method and it will start running in a separate window. The Method will guide you through the process ensuring the procedure is completely and consistently performed. When the Method is complete the window will disappear.

#### **Step 8: Exit**

When you are through working on the field device simply exit DevComDroid. Once the program exits, you can then disconnect the HART interface hardware.

## Table of Contents

QUICK START .....	1
1 Introduction.....	4
1.1 Acronyms and Definitions .....	4
1.2 Conventions Used in This Manual.....	4
1.3 Document Organization .....	5
1.4 Getting Help.....	5
2 Overview of DevComDroid.....	6
3 System Requirements.....	7
4 DevComDroid Installation.....	8
4.1 Prerequisites .....	8
4.2 Installing the DevComDroid Application.....	8
4.3 Activating DevComDroid.....	10
4.4 Connecting to the HART Network .....	13
4.5 Uninstalling the DevComDroid Application .....	14
5 Using DevComDroid .....	15
5.1 Starting DevComDroid .....	15
5.2 Getting Familiarized with DevComDroid .....	16
6 Functions and Basic Operations.....	20
6.1 Overview.....	20
6.2 Configuring Device Information.....	20
6.3 Calibrating HART Field Devices.....	33
6.4 Viewing the Device and Communication Status .....	33
6.5 Saving Device Configuration as Files.....	35
6.6 Options.....	37
6.7 About.....	46
6.8 PC Interface to Mobile Device .....	47
6.9 DD Library Updates.....	47
Appendix A Troubleshooting Guide .....	48
Appendix B Contact Information.....	49

## 1 INTRODUCTION

The Smart Device Communicator (DevComDroid) allows access to and management of a HART compatible field device's configuration and calibration. This manual provides the information about the Hardware setup, Communication with Smart devices, and functions of DevComDroid.

DevComDroid is unique in that it uses the DD of the connected device to determine what information to display, what variables are available for edit, and what procedures to follow for calibration, setup, and maintenance.

### 1.1 Acronyms and Definitions

Acronym	Definition
DD	Device Description File. This contains the device information.
DDL	Device Description Language
HCF	HART Communication Foundation
DevComDroid	Smart Device Communicator Android

### 1.2 Conventions Used in This Manual

Following formatting conventions are used in this guide:

Convention	Description
Words in <b>bold</b> type	Field names including buttons in the display, or important phrases.
→ Arrow	Android Menu button followed by the selection to make are separated by →. For example, select <b>Menu</b> → <b>New Device</b> to connect to a new device.
UPPERCASE	Acronyms
UPPERCASE within angle brackets	Command keys For example, press <BACK>.

## 1.3 Document Organization

DevComDroid user manual is organized into the following sections:

- 
- |                  |   |
|------------------|---|
| <b>Section 1</b> | Describes the scope and objective of DevComDroid user manual along with the organization of the remaining part of the manual. |
| <b>Section 2</b> | Provides an overview of the DevComDroid application and its architecture.   |
| <b>Section 3</b> | Provides the information pertaining to hardware and software requirements for the DevComDroid application.                    |
| <b>Section 4</b> | Provides the steps to install, activate, and uninstall the DevComDroid application.   |
| <b>Section 5</b> | Provides the steps to start the DevComDroid application and connecting to field devices.                                      |
| <b>Section 6</b> | This section explains different aspects of the DevComDroid application and its functionalities.                               |
- 

## 1.4 Getting Help

If you need help or encounter problems when using DevComDroid or this guide, please contact ProComSol, Ltd. See Appendix C for contact information. Please provide the following information.

Create a text description of the problem. If possible, provide the text in event sequence, which will enable the duplication of the problem. Provide information about the system. This information must include:

- DevComDroid version and serial number
- Mobile information: make, model, and Android version
- HART Device information: make, model, and device revision
- Point of contact: name, telephone number, and e-mail address,

## 2 OVERVIEW OF DEVCOMDROID

Field devices such as flow, pressure, level, temperature transmitters, and valve positioners provide the physical connection to the process. These devices allow the control system to monitor and manipulate process conditions. HART devices maintain a real-time database of process, configuration, identification, and diagnostic information. This information can be accessed using the HART Field Communications Protocol.

HART devices are capable of providing functions and features far beyond the basic task of providing a process input or accepting a control output to manipulate process conditions. Many HART compatible device manufacturers create a DD (Device Description) describing all of these functions and features specific to that device. The DD also provides information essential to the successful configuration and calibration of the device.

DevComDroid uses these DD's to access the data stored in a device, providing full configuration and setup support for all registered HART DD's.

DevComDroid accesses and presents field device data based solely on its DD. No other files, information or custom drivers are required. DevComDroid is intended to monitor and configure a single device at a time, it is directly connected to the current loop of the particular device and:

- Provides user interface to configure the HART field device,
- Provides a means to configure and view all the parameters related to HART field device, and
- Provides an option to view the detailed status and diagnostic capability of the device.

DevComDroid allows viewing and modifying of field device parameters based on the DD. Using the device's DD, DevComDroid performs various tests to verify the proper operation of the HART device. DevComDroid runs as a standalone software application and must have a HART compatible modem attached to the system to interrogate the HART device.

### 3 SYSTEM REQUIREMENTS

The following minimum system requirements are recommended for operation of DevComDroid.

---

Mobile Device	Processor: ARM or Atom Memory RAM: 1 GB Memory ROM: 2 GB Screen: 960x540 qHD
SD Card	Optional
HART Modem	ProComSol HM-BT-BAT-ER or equivalent
Communication Port	Bluetooth 2.0
Operating System	Android Ice Cream Sandwich (4.0.3)

---

## 4 DEVCOMDROID INSTALLATION

### 4.1 Prerequisites

You need to be familiar with the basic functions of the following when installing the DevComDroid tool:

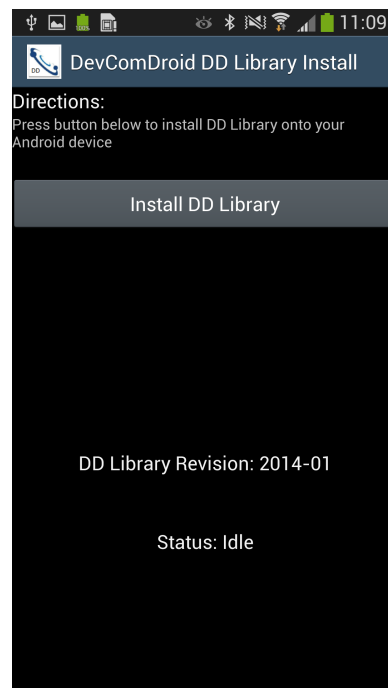
- Android operating system
- HART communication interface
- HART field device

### 4.2 Installing the DevComDroid Application

#### 4.2.1 DD Library

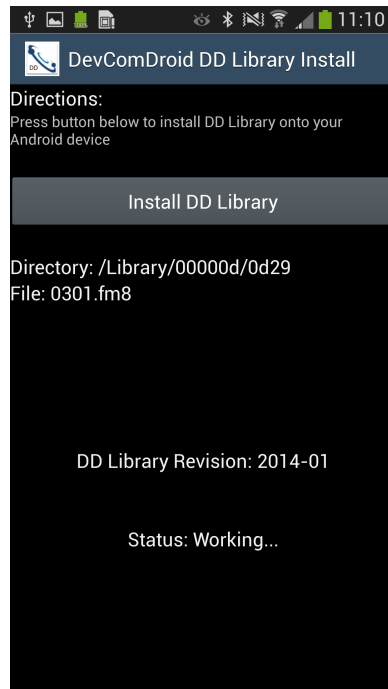
To install the DevComDroid DD Library, perform the following steps:

Step	Action
1	Copy the file “com.procomsol.devcom.dd.apk” to your device. It is recommended to put in in the “/storage/emulated/0/Download” folder on the device.
2	On the Android device, launch the “MyFiles” app or equivalent. It is simply a file browser.
3	Navigate to the directory where you saved the file in Step 1.
4	Click on the file “com.procomsol.devcom.dd.apk”.
5	At the “Do you want to install this application?” prompt select “Install”.
6	Once the application is installed, press “Open” to launch it. The screen below will appear:

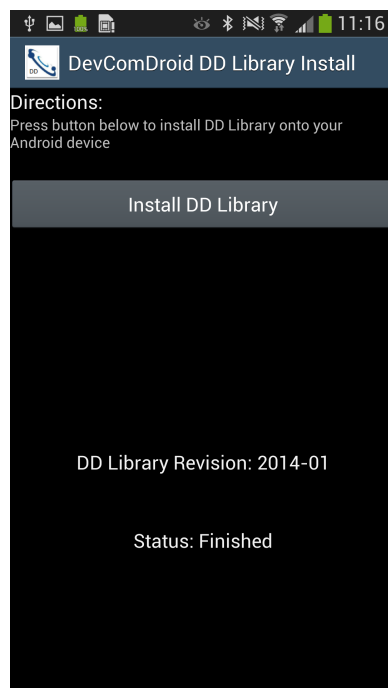




- | Step | Action   |
|------|--|
| 7    | The status line will show “Status: Working” and will show what files are being copied to the device: |



- |   |  |
|---|--|
| 8 | The status line will say “Status: Finished” when done. |
|---|--|



- |   |   |
|---|---|
| 9 | Press bottom left button <b>Menu</b> -> <b>Exit</b> to close the program. |
|---|---|

### 4.2.2 DevComDroid Application

To install the DevComDroid application, perform the following steps:

Step	Action
1	Copy the file “com.procomsol.devcom.apk” to your device. It is recommended to put in in the “/storage/emulated/0/Download” folder.
2	On Android device, launch the “MyFiles” app or equivalent.
3	Navigate to the directory where you saved the file in Step 1.
4	Click on the file “com.procomsol.devcom.apk”.
5	At the “Do you want to install this application?” select “Install”.
6	Once the application is installed, press “Open” to launch it. The Modem Select screen below will appear:

### 4.2.3 HART Modem

To connect the Android device to the HART Modem, perform the following steps:

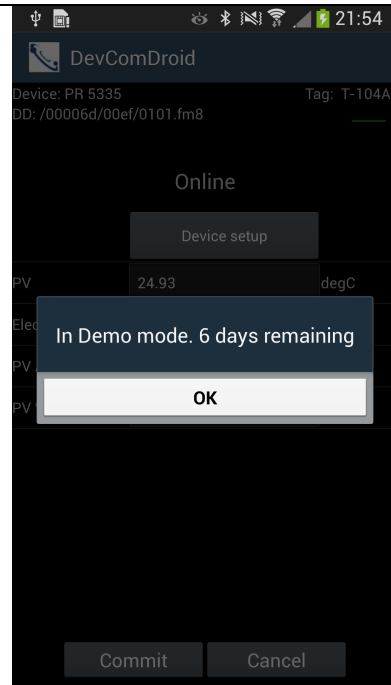
Step	Action
1	Turn on the HM-BT-BAT-ER HART Modem (or equivalent).
2	From the Modem Select screen, press the “Scan for Bluetooth Devices” button.
3	A list of available Bluetooth Devices will appear. Select the HART Modem you wish to use. Sample screen below:
4	You will then be prompted for a pairing code. Enter 1234.
5	The program will then connect to the modem. Note that Modem Pairing and Selection only needs to occur 1 time.

## 4.3 Activating DevComDroid

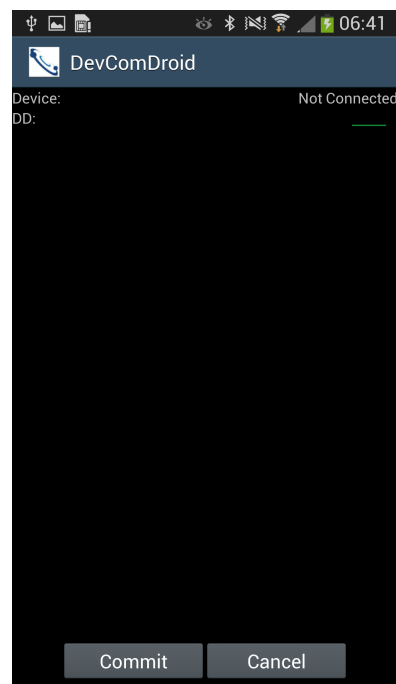
DevComDroid must be activated for use after 10 days. The following procedure will activate the software:

Step	Action
1	Start the DevComDroid Application. The following Demo mode message is displayed:

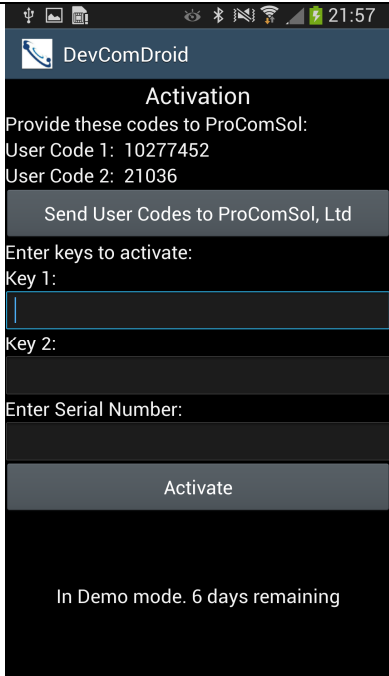
Step	Action
------	--------



- If not yet connected to a HART device, the following screen will then appear:



- Press **Menu → Licensing** button on the Android Device. The following screen will appear:

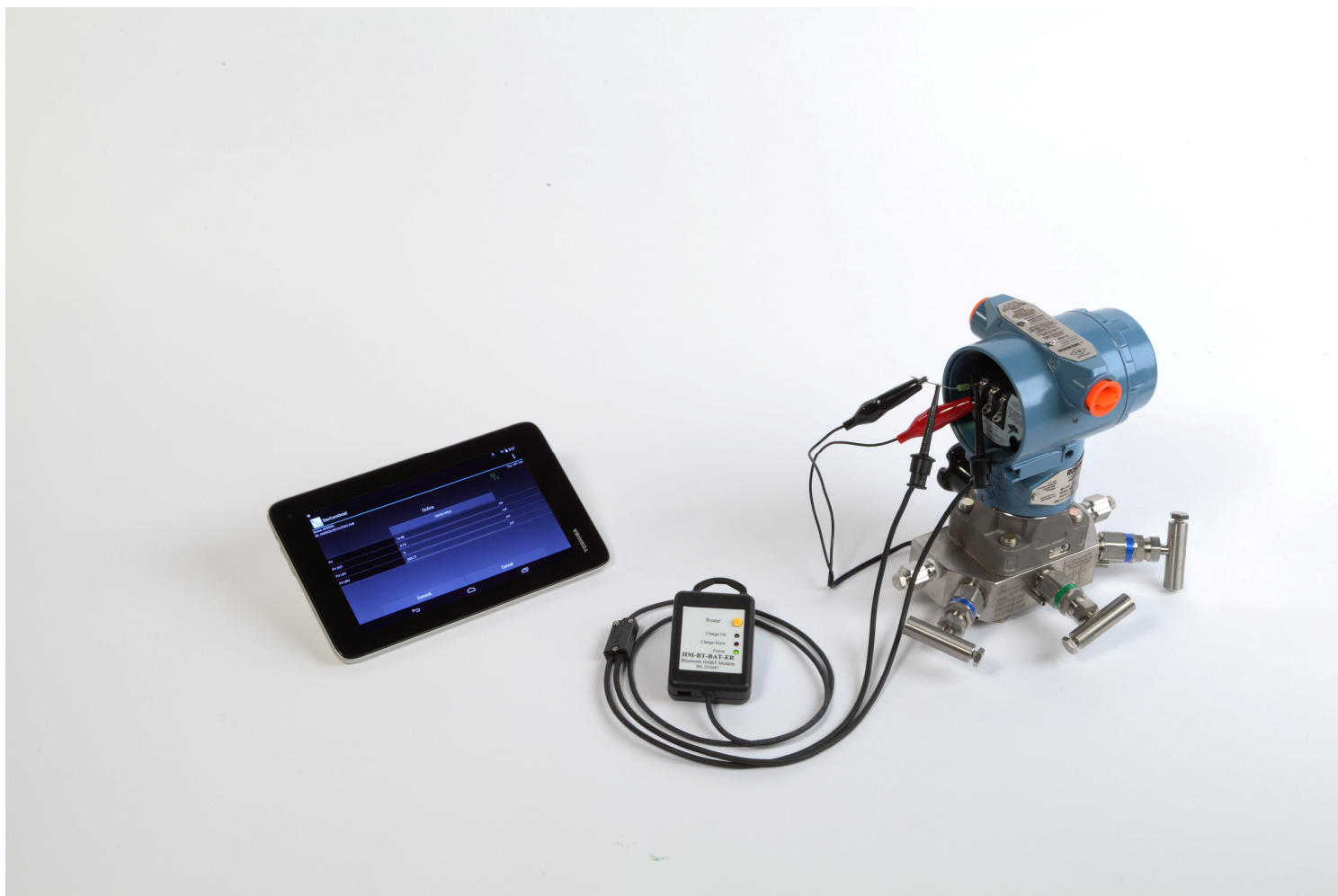
Step	Action
	
4	<p>You will then need to contact ProComSol, Ltd to obtain the registration keys. You must supply the User Codes to ProComSol, Ltd support personnel. You can activate in any of the following ways:</p> <ol style="list-style-type: none"> <li>1. Call ProComSol, Ltd at 216.221.1550. Have the program Serial Number and User Codes ready.</li> <li>2. Or, send an email to <a href="mailto:support@procomsol.com">support@procomsol.com</a> containing your company name, Serial Number, and User Codes.</li> <li>3. Or, send a fax to ProComSol, Ltd (216.221.1554) containing your company name, Serial Number, and User Codes.</li> <li>4. Simply press the “Send User Codes to ProComSol” button.</li> </ol> <p>The above information will be processed at ProComSol, Ltd and an appropriate response will contain the required Reg Keys. The user will need to enter the Reg Keys and the Serial Number.</p>
5	<p>Press the “Activate” button to perform the activation. If successful, the program returns to the Main menu. You will not need to perform the activation process again.</p>
6	<p>We have tried to make the Activation process as easy as possible. Contact ProComSol, Ltd if you have any difficulties</p>

## 4.4 Connecting to the HART Network

The DevComDroid application communicates with the HART Field Devices through a HART compatible communication interface (e.g., a "HART Modem"). Using this communication interface you will transmit real-time HART data between DevComDroid and the connected HART compatible field device.

There are a wide variety of HART compatible interfaces. Please follow the manufacturer's instruction for connecting your interface to the Mobile. This manual uses the HART modem manufactured by ProComSol, Ltd, called the HM-BT-BAT-ER. It uses the Bluetooth interface.

Turn the HM-BT-BAT-ER on. It is assumed you have already performed the Bluetooth pairing procedure. See the HM-BT-BAT-ER documentation for details. Using the clips on the wires from the HART modem, connect to the device across the 4-20ma signal. If a suitable load resistance is not available, a 250Ω resistor must be placed in series with the device power supply.



**Figure 1 Typical DevComDroid Hardware Setup**

## 4.5 Uninstalling the DevComDroid Application

To uninstall the DevComDroid application, perform the following steps on the Android Device:

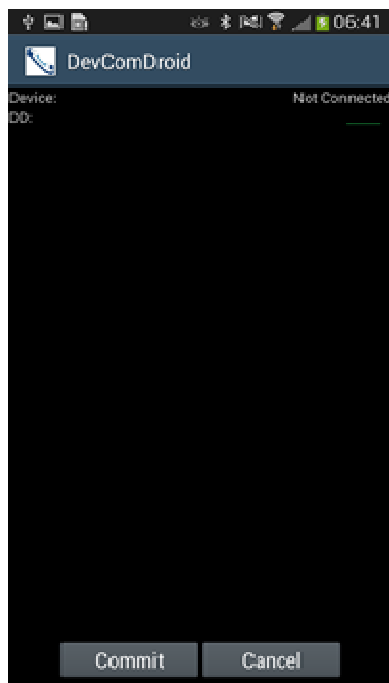
Step	Action
1	Go to the Application Manager (or equivalent) screen.
2	Select “DevComDroid”
3	Select “Uninstall”.
4	Select “OK”
5	Select “DevComDroid DD Library”
6	Select “Uninstall”.
7	Select “OK”

## 5 USING DEVCOMDROID

### 5.1 Starting DevComDroid

The HART compatible field device must be connected to a Mobile running DevComDroid to configure or calibrate the field device, or to view the field device's data. Make sure to establish the physical connection between the field device and the HART Modem. With the physical connection established, launch DevComDroid by clicking the DevComDroid icon on your device screen.

Step	Action
1	Start the DevComDroid Application. The following application window is displayed:

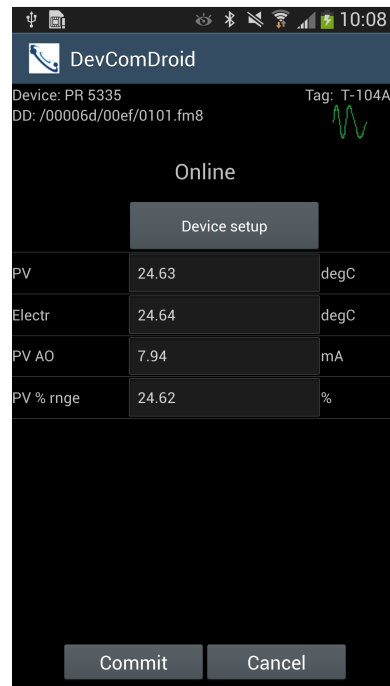


DevComDroid will then automatically identify the field device and begin communicating with the field device.

- |   |  |
|---|--|
| 2 | When the field device is successfully connected to DevComDroid, the Main menu window appears with the root menu of the device DD selected. |
|---|--|

---

Step      Action



The DevComDroid screens shown in this document are only an example of what you may see when connected to your field device. What you will see is controlled by the DD and the device. The menus, data, status and configurations displayed are specified by the device's manufacturer in the DD itself.

- 3      Select the required menu to configure or review the field device's data.
- 

## 5.2 Getting Familiarized with DevComDroid

### 5.2.1 The Main Menu Indicators

DevComDroid Main Menu layout is designed to provide the operator with valuable information in order to make work quick and easy. Below is a typical Main Menu with each field described:



The screenshot shows the DevComDroid application interface. At the top is a status bar with various icons and the time 10:08. Below this is a header bar with the ProComSol logo and the text 'DevComDroid' (1). The main display area shows device information: 'Device: PR 5335' (2), 'Tag: T-104A' (3), and 'DD: /00006d/00ef/0101.fm8' (4). A green waveform icon (5) is also present. The status 'Online' (6) is displayed in the center. Below this is a 'Device setup' button (7). A table of process variables follows:








PV (8)	24.63 (9)	degC (10)
Electr	24.64	degC
PV AO	7.94	mA
PV % rng	24.62	%

At the bottom, there is a '<Status Text>' label (11) and two buttons: 'Commit' (12) and 'Cancel' (13).

- 1 - Program name
- 2 - Device model of connected HART device
- 3 - Tag name of connected HART device
- 4 - DD loaded for connected HART device
- 5 - Communication indication
- 6 - Menu title for current menu
- 7 - Sub menu
- 8 - Label
- 9 - Data
- 10 - Units
- 11 - Status
- 12 - Commit, save edit changes to connected HART device
- 13 - Cancel, return edit changes to original value

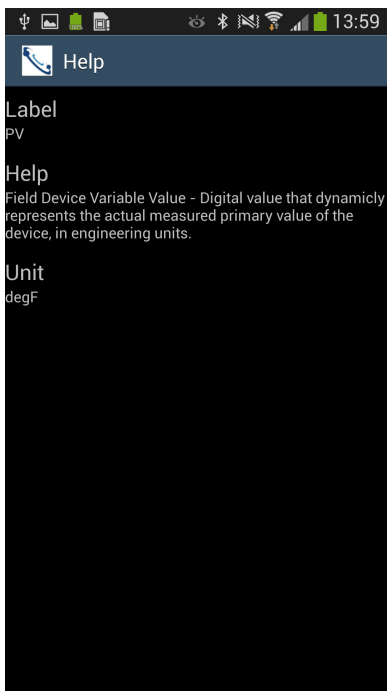
### 5.2.2 Using the Option Menus

DevComDroid provides visual representation and structure of the application window.

Menu	Explanation
 New Device	<b>New Device</b> - Connect to a new device or reconnect to the same device.
 Device Status	<b>Device Status</b> – View detailed device status.
 Document Device	<b>Document Device</b> – Launches the Document Device screen
 Options	<b>Options</b> – Launches the Options screen.
 Licensing	<b>Licensing</b> – Launches the License screen.
 About	<b>About</b> – Shows copyright information, support information, and application Serial Number.
 Exit	<b>Exit</b> - Exit DevComDroid.

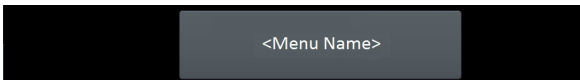
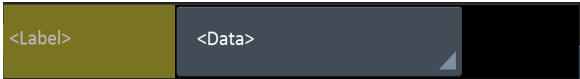
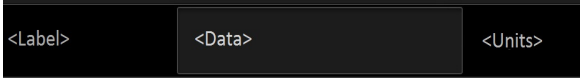

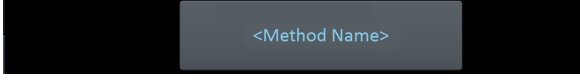
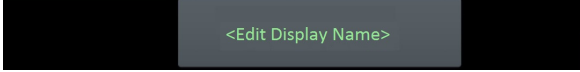
### 5.2.3 Using the Help Menus

When you select a label for a variable, a screen will appear with information about the variable. Below is an example:



#### 5.2.4 Familiarizing with Menu Color Indicators

DevComDroid application uses different colors to represent different elements of the application. The following table lists the colors and their meanings:

Color Example	Meaning
	Indicates a menu in the navigation tree
	Indicates an “Enumerated Variable” item
	Indicates a Read Only “Variable” item
	Indicates an Editable “Variable” item
	Indicates a “Method” (Standard Operating Procedure) item
	Indicates an “Edit Display” item

## 6 FUNCTIONS AND BASIC OPERATIONS

### 6.1 Overview

DevComDroid allows the user to monitor and configure a single device at a time in the field. Each device is associated with the DD when the device information is present. A DD may contain any of the following parameters/elements:

#### Variable

A variable is defined as the data contained in the device (e.g. Device Firmware Version). There are three types of variables:

Numeric – Variable data consists of numbers

Text – Variable data consists of text and/or numbers

Enumerated – Variable data is from a list of valid data points.

The above variables are further definable as follows:

Editable Variable – It allows the operator to modify the value and download it to the device.

Non-Editable Variable – It is a read-only data from the device.

#### Edit Display

This option is used to view a group of parameters. You can also modify a single parameter from this group, based on which other parameters of the device get altered.

For example, if the Engineering Unit of the device is modified, the corresponding Low Limits and High Limits change as per the Engineering Unit set.

#### Method / Standard Operating Procedure (SOP)

This option helps to perform various tests on the device for instance, Self Test and Loop Test. A Method or SOP is a series of steps that are executed in a sequence results in the completion of some device related tasks. When a method gets invoked, it gives various warning messages and options to the user, by which the user can thoroughly test the device. If a test is aborted by operator command at any stage of the sequence, the method invokes additional steps to bring the device back to its original state before the test.

### 6.2 Configuring Device Information

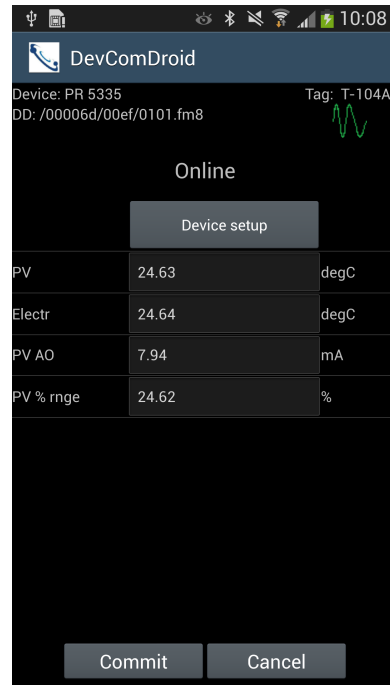
#### 6.2.1 Overview

DevComDroid allows you to view and configure the field device parameters based on the device description. However, the device vendor defines most of the parameters at the factory. These parameters become read only for the users and the user cannot modify the values. The related variables are grouped under various menus of different levels as defined in the DD file. Expand or collapse the tree view using the “+” or “-” sign to access the device configuration parameters.

Following table describes the details about the device configuration:

Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Ensure that the application is running and communications have been established: |
|---|--|



- 2 There are three types of variables: Numeric, Text, and Enumerated. In turn these variables can be read/write and read only. Dynamic variables are also read only.
- Following points describe how the device parameters represents their status when connected to DevComDroid:
- Green Label Background: Modifiable Values
  - Normal Label Background: Read only Values
  - Data field with gray triangle: Enumerated data

Step	Action
------	--------

The screenshot shows the DevComDroid application interface. At the top, the status bar displays various icons and the time 21:58. The app title bar reads 'DevComDroid'. Below this, the device information is shown: 'Device: PR 5335' and 'Tag: T-104A'. The address 'DD: /00006d/00ef/0101.fm8' is also visible. The main section is titled 'Signal condition' and contains a table of parameters:

PV LRV	0.0	degC
PV URV	100.0	degC
PV unit	degC	
PV % rng	25.16	%
PV Damp	1.00	s

At the bottom of the screen, there are two buttons: 'Commit' and 'Cancel'.

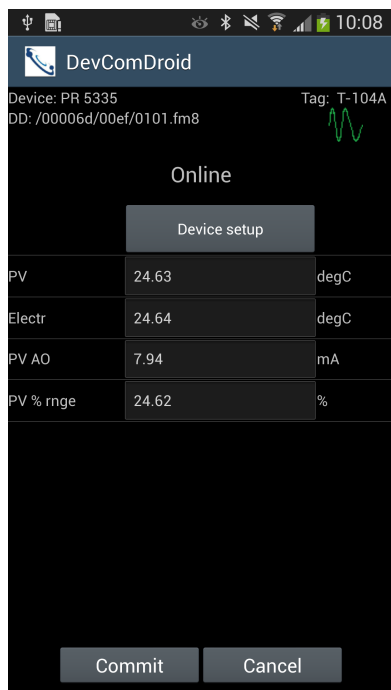
- 3 Select the parameter and configure the values, as required.
- 4 The subsequent topics explain how to configure device parameters.

### 6.2.2 Variables

To edit the parameter variables of the connected device, perform the following steps:

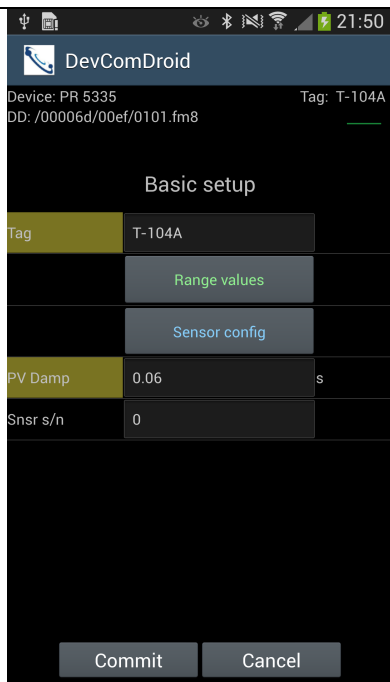
Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Ensure that the application is running and communications have been established: |
|---|--|

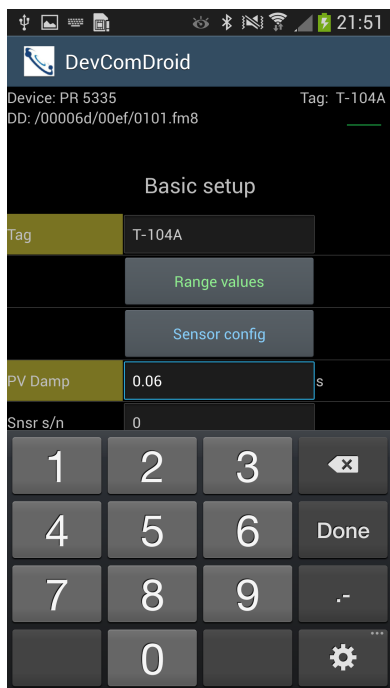


- |   |  |
|---|--|
| 2 | Select the menu where the editable parameter is present as shown below. For this example we are editing PV Damp: |
|---|--|

Step	Action
------	--------



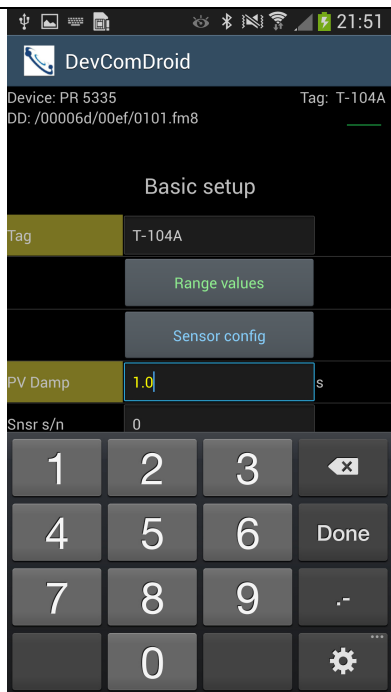
- 3 Select the variable data to edit it. The edit slider will appear along with a soft keyboard:



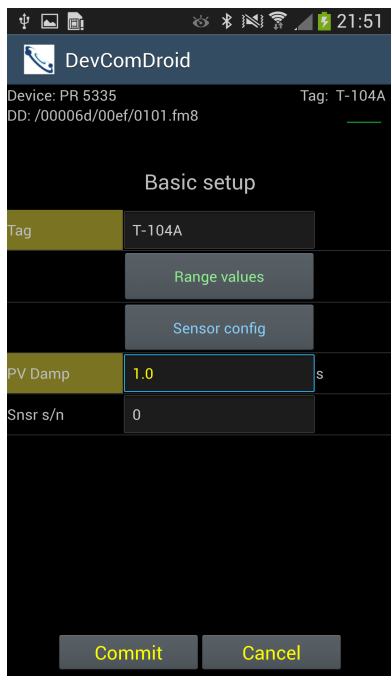
- 4 Make the changes to the parameter value, as required.



Step	Action
------	--------

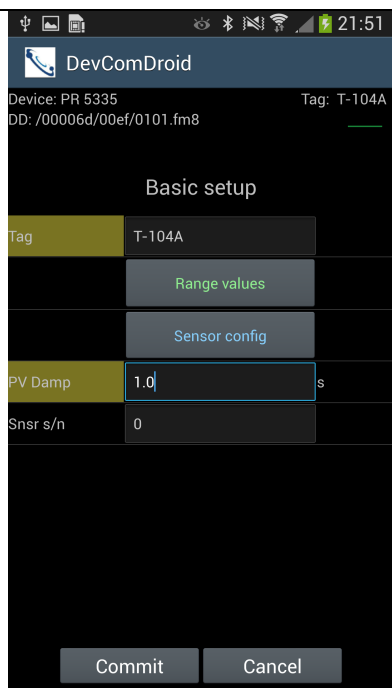


- 5 Use the Back key to remove the keyboard. Note that the changed variable is now Yellow and the Commit and Cancel buttons are also Yellow:

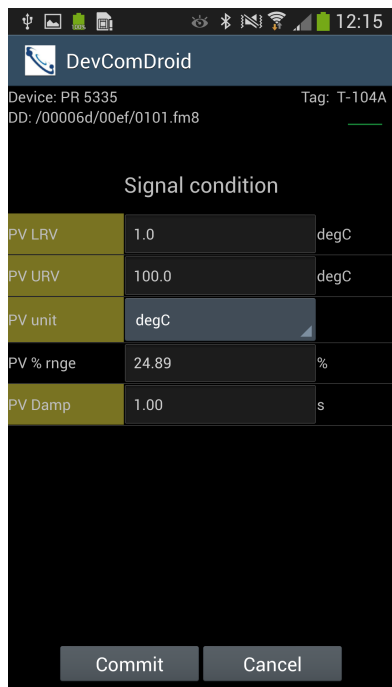


- 6 Click on the “Commit” button to send the new value to the device. The buttons and data return to white when complete:

Step	Action
------	--------



- For Enumerated variables, the process is very similar. Start by selecting where the editable parameter is present as shown below:

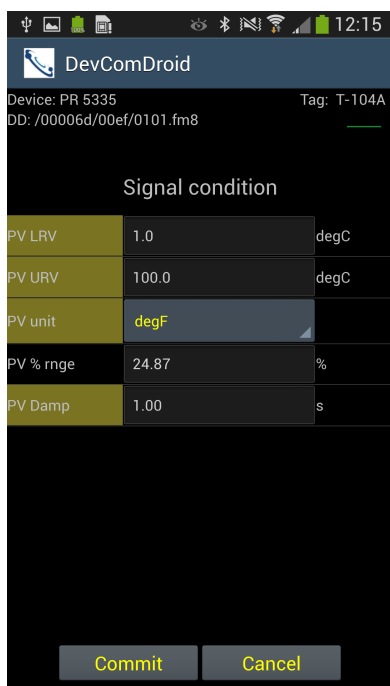


- Select the variable data to edit it. A list will appear with the valid values to use:

Step	Action
------	--------

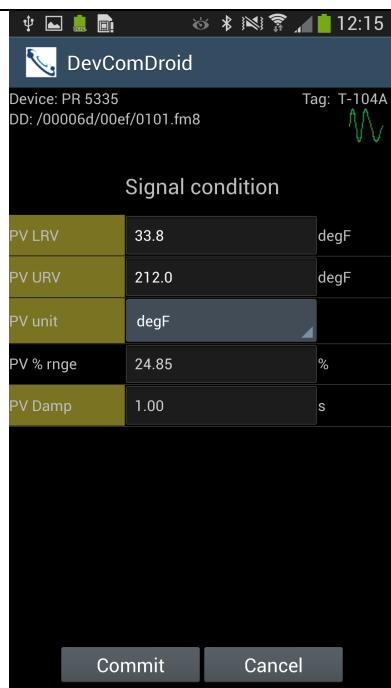


- 9 Select the value you wish to use.
- 10 Once selected, the list will disappear and the new value will be in the data field. Note that the changed variable is now Yellow and the Commit and Cancel buttons are also Yellow:



- 11 Click on the “Commit” button to send the new value to the device:

Step	Action
------	--------



### 6.2.3 Edit Display

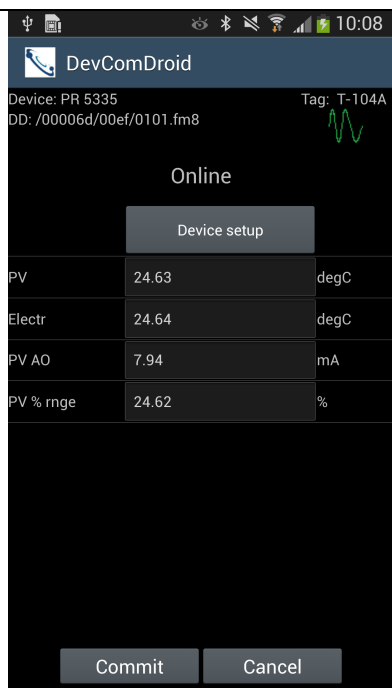
The Edit Display is a variation on the Variable edit. An additional window helps the user view a group of parameters based on the DD. You can also modify a single parameter from this group. Parameters linked to the edited field will be updated automatically.

To view and configure these variables, perform the following steps:

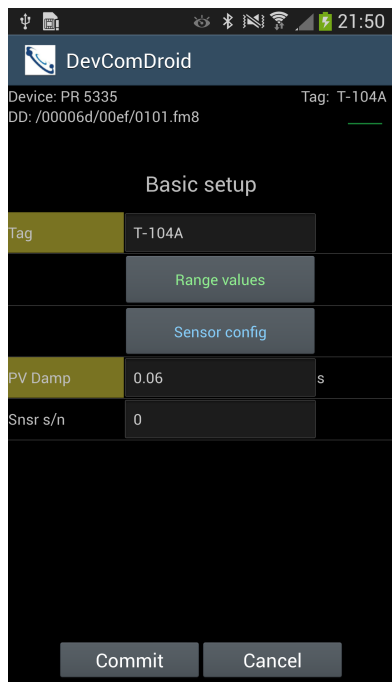
Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Ensure that the application is running and communications have been established: |
|---|--|

Step    Action

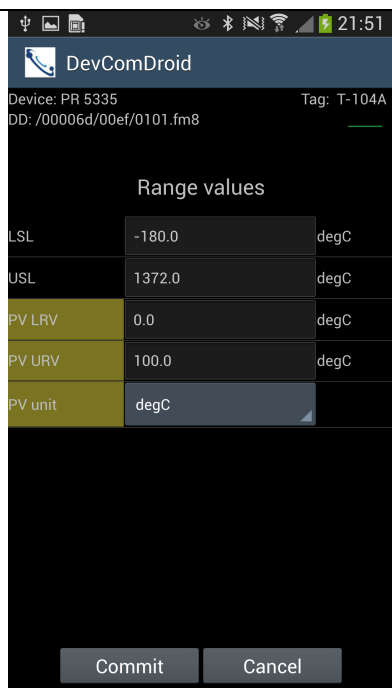


- 2 Select the menu where the editable parameter is present as shown below. For this example we want to edit URV from the Range Values Edit Display:

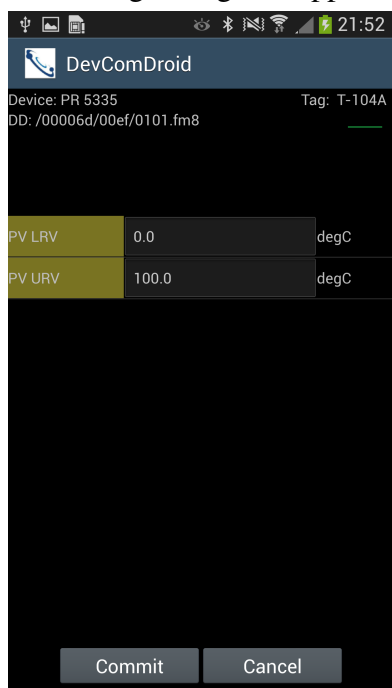


- 3 The Edit Display looks like a regular menu as seen here:

Step	Action
------	--------



- 4 Select the parameter you wish to edit from within the Edit Display box. The following dialog box appears on the screen:



- 5 Make the change to the value, as required.
- 6 Click on the “Commit” button to send the new value to the device.

## 6.2.4 Executing Methods or Standard Operating Procedures

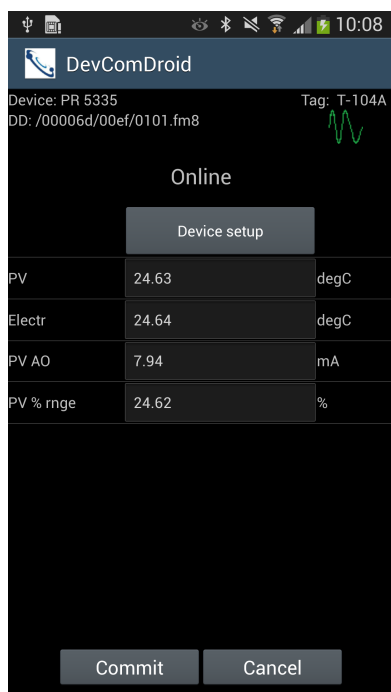
Methods are defined in the DD file for the device that DevComDroid is connected to. You can select the Method and execute it for calibrating the device, trouble shooting, etc. Method execution leads you through a number of steps, like in a wizard.

A Few examples of methods include,

- Set high and low range calibration points
- Calibrate the device
- Run the advanced diagnostic test procedure
- Execute tests to gather information on device operation.

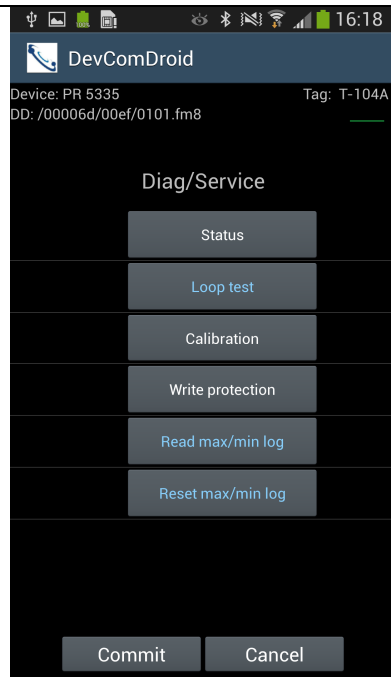
To execute a Method, perform the following steps:

Step	Action
1	Ensure that the application is running and communications have been established:

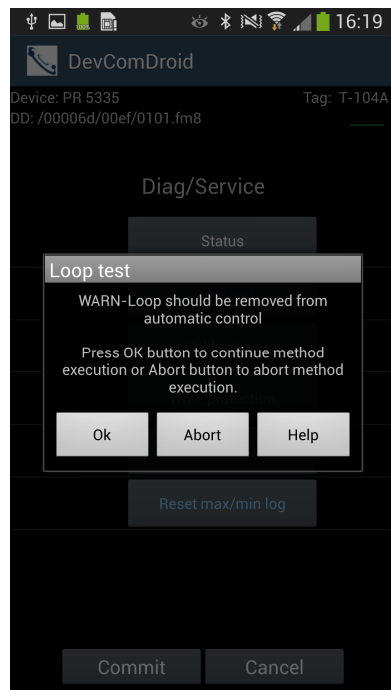


- 2 Select the menu where the method is present and select the desired Method:

Step	Action
------	--------



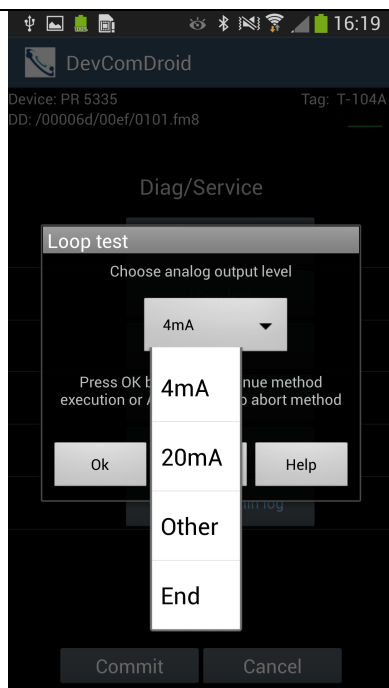
3 Below is an example of a Method screen:



4 Click **OK** to move to the next dialog in the Method sequence. Some methods require more user input such as selecting an enumerated value as below:



Step	Action
------	--------



- |   |   |
|---|---|
| 5 | Click <b>Abort</b> to cancel the Method execution.  |
| 6 | Click <b>Help</b> to get specific help for that step of the Method. This Help information is provided by the device DD. |

### 6.3 Calibrating HART Field Devices

Calibration of field devices and loop test are achieved by executing the Methods or Standard Operating Procedures that are specific to device. Methods are defined based on the test parameters specific to the device, providing information for the calibration of that device.

See the previous section for Method execution.

### 6.4 Viewing the Device and Communication Status

DevComDroid provides the user with the ability to monitor the device specific status of the device and the communication network.

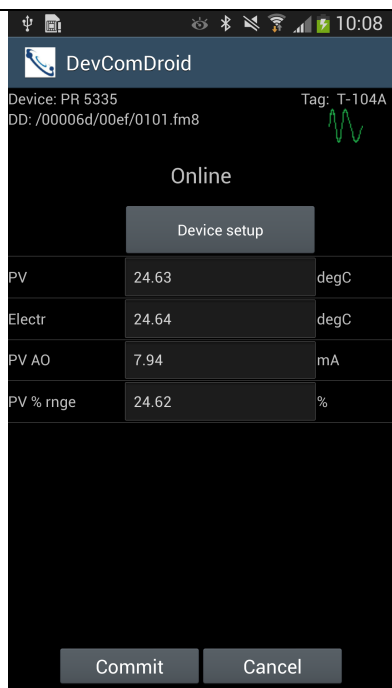
When there is error communicating with the device, it is recognized and indicated to the user. The user can view more details of such errors, using the **View → Device Condition** from the main window.

To view the device and communication status, perform the following steps:

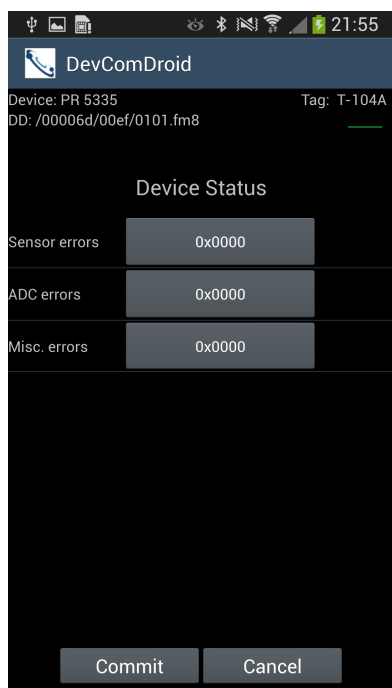
Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Ensure that the application is running and communications have been established: |
|---|--|

Step	Action
------	--------



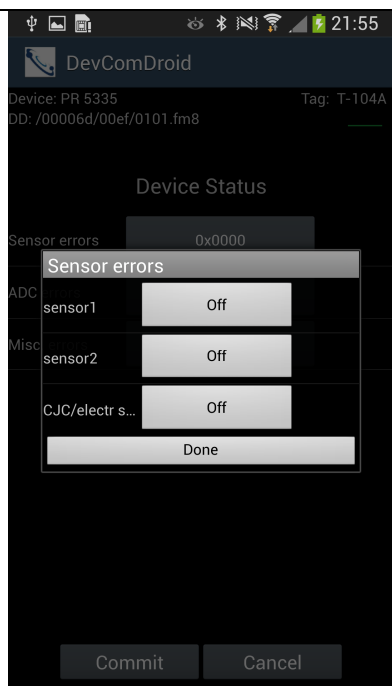
- 2 Select Option and Device Status. The following window is displayed:



The status byte is shown for each status point.

- 3 To see more details on which status point is active, select the status data. Here is a sample:

Step	Action
------	--------



- |   |  |
|---|--|
| 4 | Click the Back button to close the Device Status window. |
|---|--|

## 6.5 Saving Device Configuration as Files

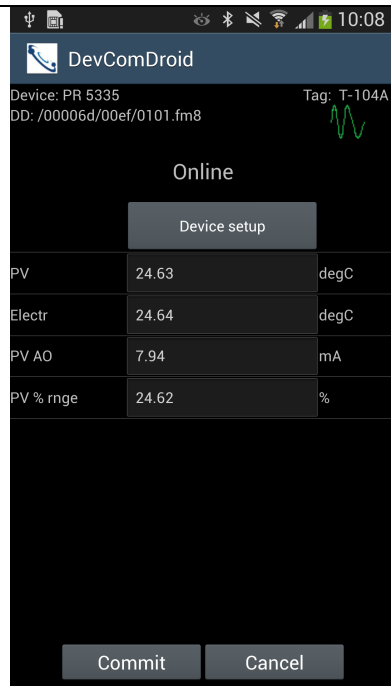
HART Device configurations can be saved to memory as a comma delimited text file and formatted PDF file to document the device.

To save device configurations to disk, perform the following steps:

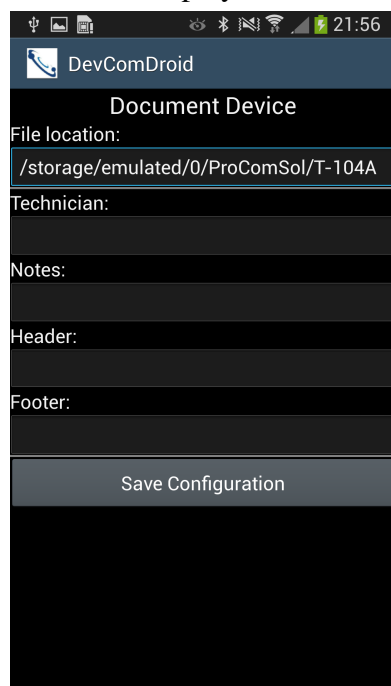
Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Ensure that the application is running and communications have been established: |
|---|--|

Step	Action
------	--------



- 2 Select **Menu** → **Document Device** from the main window. The Document Device screen is displayed:



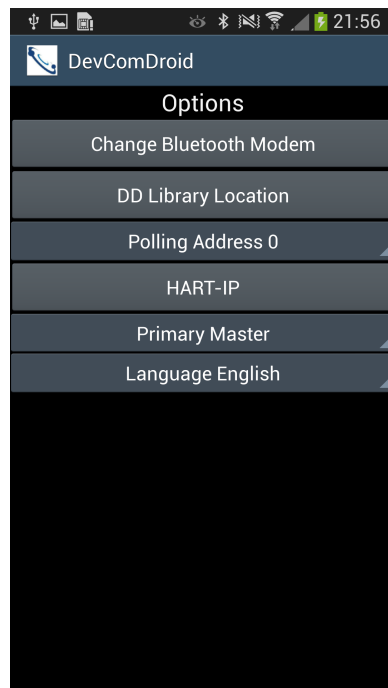
- 3 The default directory is \ProComSol. The default file name is Tag\_Device ID. The filename can be changed by the user. Edit directory and filename as needed.
- 4 Enter Notes in the Notes field if desired. Enter Technician name

Step	Action
	in the Technician field if desired.
5	Enter Header and Footer information for the PDF file if desired.
6	Press the “Save Configuration” button to save device configuration to text file and pdf file.
7	When complete, the pdf file will be displayed. You may need to select which App you want to use to display the file.

## 6.6 Options

There are several Options that may need to be changed by the user to perform a desired activity. Below is a description of what Options are available:

Step	Action
1	Ensure that the application is running. Communications do NOT need to have been established:
2	Select <b>Menu → Options</b> from the main window. The Options screen is displayed:



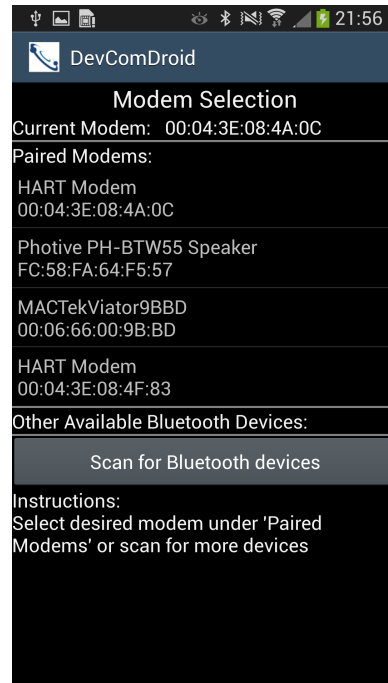
Each Option is explained below.

### 6.6.1 Change Bluetooth Modem

This option allows the user to switch modems.

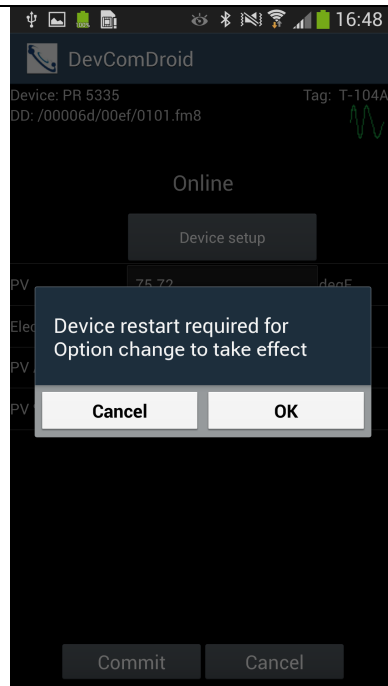
Step	Action
------	--------

- |   |                                     |
|---|-------------------------------------|
| 1 | This is the Modem Selection Screen: |
|---|-------------------------------------|



- |   |   |
|---|---|
| 2 | Select one of the Paired modems you would like to connect to. Or if your desired device is not yet paired, press the “Scan for Bluetooth Devices” button. |
| 3 | Once a paired device is selected, the display will return to the Options screen.  |
| 4 | Press Back to return to the Main Screen. If a new Modem was selected the following message will be shown:   |

Step	Action
------	--------



- |   |   |
|---|---|
| 5 | Select “Cancel” to return to the Main menu without reconnecting to the device. You will then need to perform <b>Menu-&gt;New Device</b> for the changes to take effect. |
| 6 | Select “OK” to reconnect to the device with the change in place.  |

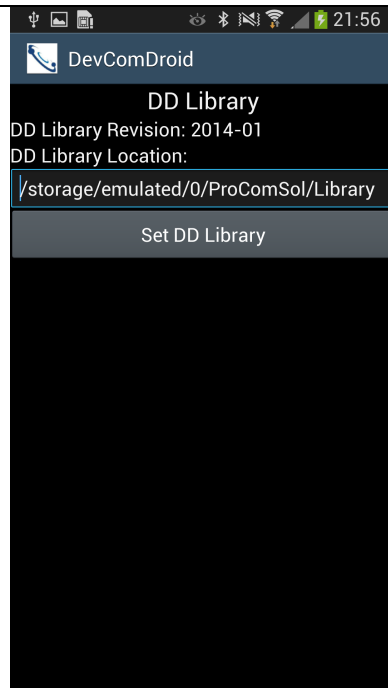
## 6.6.2 DD Library Location

This option shows the user where the DD Library is located and allows the user to change the location.

Step	Action
------	--------

- |   |                                |
|---|--------------------------------|
| 1 | This is the DD Library screen: |
|---|--------------------------------|

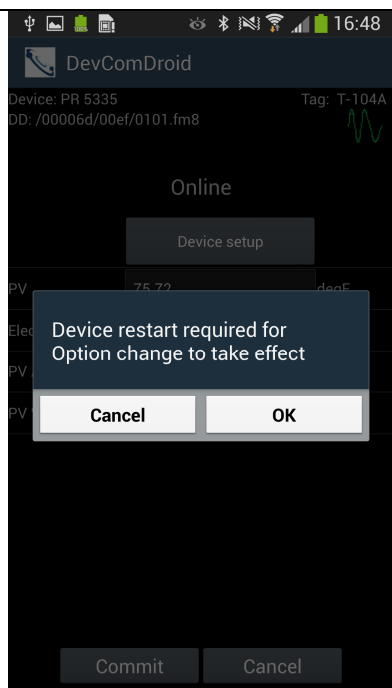
Step	Action
------	--------



- |   |   |
|---|---|
| 2 | The current DD Library location is shown. If you wish to select a different location, edit as necessary.                    |
| 3 | Press “Set DD Library” to change the location.  |
| 4 | Press Back to return to the Options Screen  |
| 5 | Press Back again to return to the Main menu. If a new DD Library location was selected the following message will be shown: |



Step	Action
------	--------



- |   |   |
|---|---|
| 5 | Select “Cancel” to return to the Main menu without reconnecting to the device. You will then need to perform <b>Menu-&gt;New Device</b> for the changes to take effect. |
| 6 | Select “OK” to reconnect to the device with the change in place.  |

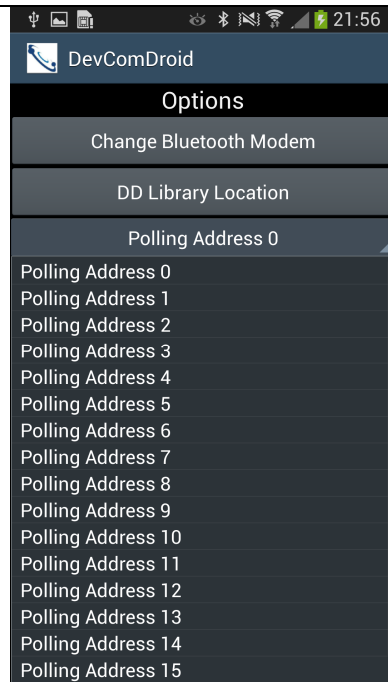
### 6.6.3 Polling Address

This option shows the user to set the address to look for devices on Multi-drop networks. The default is address 0.

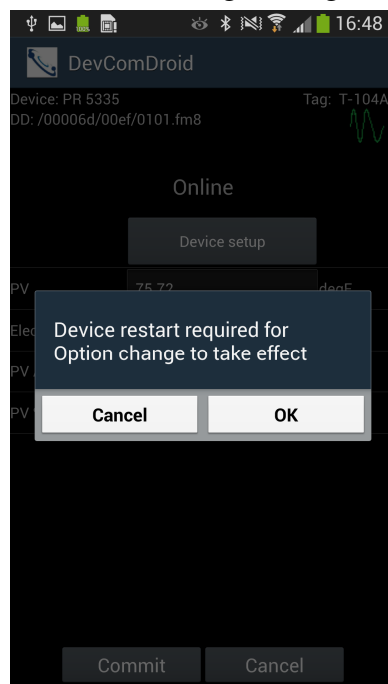
Step	Action
------	--------

- |   |                                     |
|---|-------------------------------------|
| 1 | This is the Polling Address screen: |
|---|-------------------------------------|

Step	Action
------	--------



- 2 All valid Polling Addresses are shown as an enumerated list. You may need to scroll to view the address you want.
- 3 Press the desired Polling Address.
- 4 The new address is now in the “Polling Address” button.
- 5 Press Back to return to the Main Screen. If a new Polling Address was selected the following message will be shown:



Step	Action
6	Select “Cancel” to return to the Main menu without reconnecting to the device. You will then need to perform <b>Menu-&gt;New Device</b> for the changes to take effect.
7	Select “OK” to reconnect to the device with the change in place.

#### 6.6.4 HART-IP

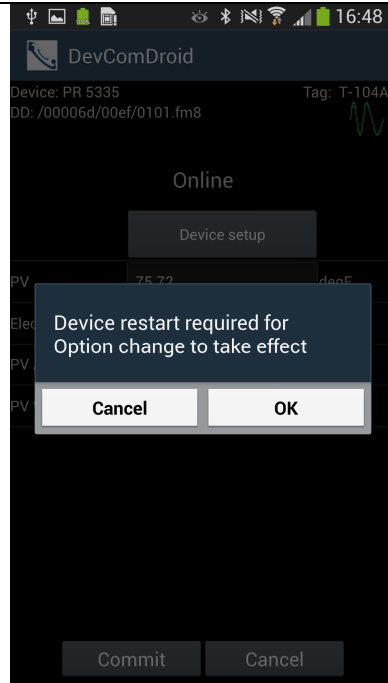
Not yet implemented

#### 6.6.5 HART Master

This option allows the user to select Primary Master or Secondary Master for Multi-master systems.

Step	Action
1	This is the HART Master screen: <div data-bbox="518 829 902 1512" data-label="Image"> </div>
2	All valid selections are shown as an enumerated list.
3	Press desired HART Master.
4	The new HART Master is now in the data field.
5	Press Back to return to the Main Screen. If a new HART Master was selected the following message will be shown:

Step	Action
------	--------



- |   |   |
|---|---|
| 6 | Select “Cancel” to return to the Main menu without reconnecting to the device. You will then need to perform <b>Menu-&gt;New Device</b> for the changes to take effect. |
| 7 | Select “OK” to reconnect to the device with the change in place.  |

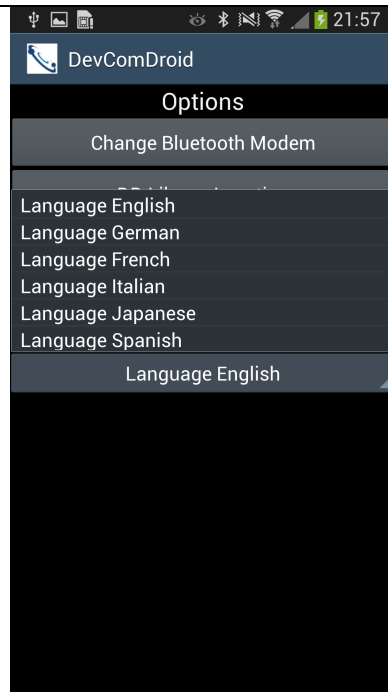
### 6.6.6 DD Language

This option allows the user to select which language the DD data will be presented. Note that all DD’s do not have each of these languages. In this case, English will be used. Also note that only the DD data is affected (currently), DevComDroid specific items will always be English.

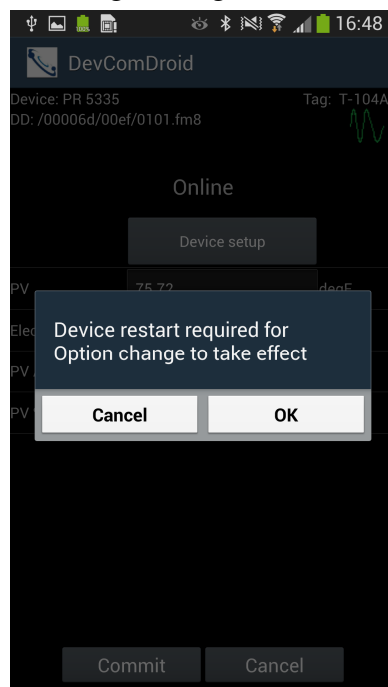
Step	Action
------	--------

- |   |                                 |
|---|---------------------------------|
| 1 | This is the DD Language screen: |
|---|---------------------------------|

Step	Action
------	--------



- 2 All valid selections are shown as an enumerated list.
- 3 Press desired DD Language.
- 4 The new DD Language is now in the data field.
- 5 Press Back to return to the Main Screen. If a new DD Language was selected the following message will be shown:

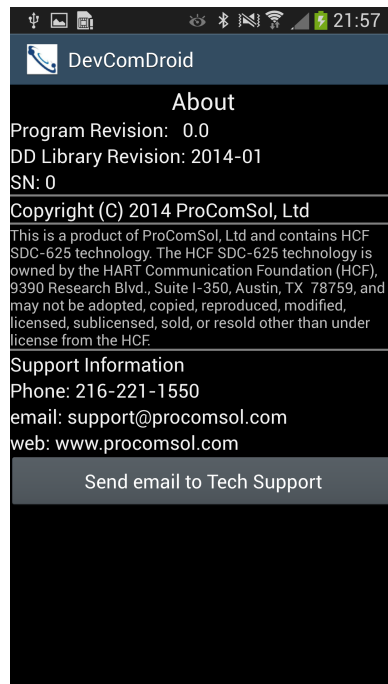


Step	Action
6	Select “Cancel” to return to the Main menu without reconnecting to the device. You will then need to perform <b>Menu-&gt;New Device</b> for the changes to take effect.
7	Select “OK” to reconnect to the device with the change in place.

## 6.7 About

There is a screen that summarizes revision status and provides support contact information for the DevComDroid program:

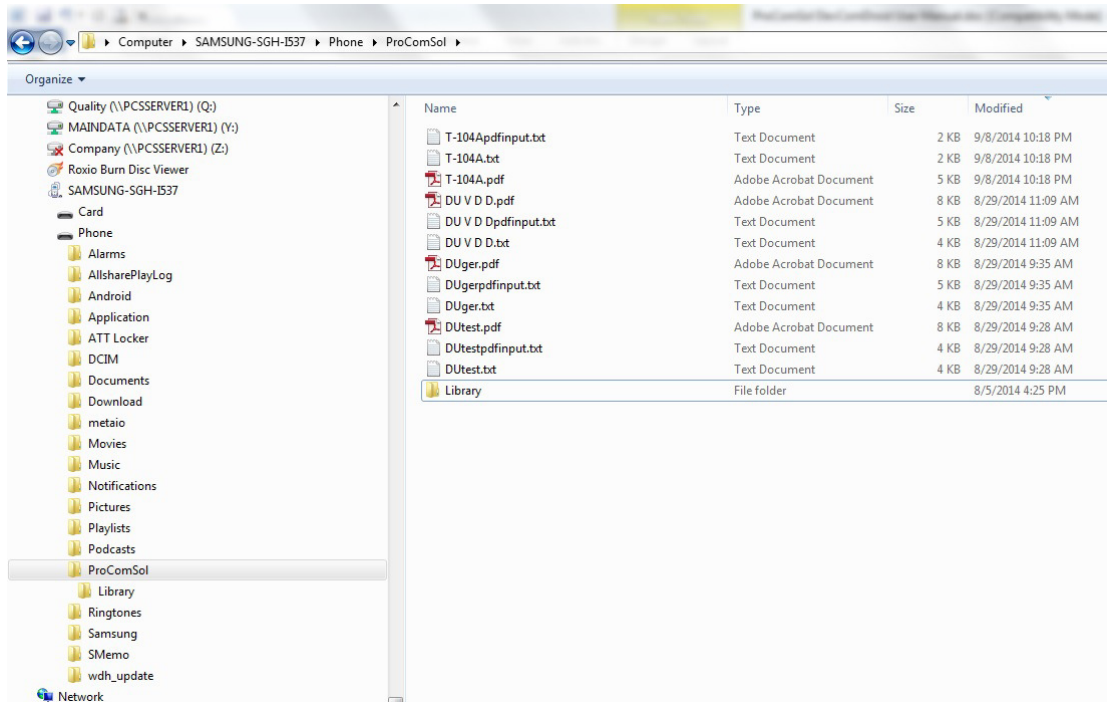
Step	Action
1	Ensure that the application is running. Communications do NOT need to have been established:
2	Select <b>Menu → About</b> from the main window. The About screen is displayed:



- Press the “Send email to Tech Support” to bring up your eMail App which you can then send to ProComSol to get help for your issue.

## 6.8 PC Interface to Mobile Device

The Windows Explorer program is a convenient way to copy configuration files back to the PC for archiving and storage. The Android device looks like a disk to the Windows file system. Below is an example screen shot:



The default location for the saved configuration files is the directory “\ProComSol”. Simply highlight the desired files and copy to your PC. Once on the PC, they can be viewed or imported to many different software packages.

## 6.9 DD Library Updates

To update the DD Library, follow Section 4.2.1, Install DD Library.

## Appendix A

### Troubleshooting Guide

Problem:

**Will not communicate**

*Hardware Check:*

Verify the following:

1. Paired to correct HART Modem
2. Loop power supply is on.
3. Loop resistance between 250 ohms and 1Kohms.
4. Loop current within HART limits.
5. If multi drop configuration, all transmitters in loop have unique addresses.
6. HART interface hardware connected across loop resistor or across transmitter terminals.



## Appendix B

### Contact Information

**ProComSol, Ltd**

Process Communications Solutions  
13001 Athens Ave  
Suite 220  
Lakewood, OH 44107  
USA

Phone: 216.221.1550

Fax: 216.221.1554

Email: [sales@procomsol.com](mailto:sales@procomsol.com)  
[support@procomsol.com](mailto:support@procomsol.com)

Web: [www.procomsol.com](http://www.procomsol.com)